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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,364	08/22/2003	Jere R. Anderson	T0428.70146US00	8634

7590 10/02/2008
Timothy J. Oyer, Ph.D.
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Boston, MA 02210

EXAMINER

CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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10/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/646,364	Applicant(s) ANDERSON ET AL.	
	Examiner VICTOR S. CHANG	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6-19,21-24,76-91 and 110-113 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6-19, 21-24, 76-91 and 110-113 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. Applicants' amendments and remarks filed on 7/18/2008 have been entered. Claims 1, 6-19, 21-24, 76-91 and 110-113 are active.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The grounds of rejection have been maintained as set forth below.

Claim Rejections - 35 USC § 102

4. Claims 1, 6-13, 17-19, 21-23, 110 and 111 are rejected under 35 U.S.C. 102(b) as being anticipated by Dumbauld [US 5070111].

Dumbauld's invention relates to a thermoplastic elastomer foam. The foam has a low density and a high percentage of closed cells [abstract]. Useful thermoplastic elastomers are blends of crystalline polyolefin plastic and rubber. Typical crystalline polyolefin plastics include polypropylene, etc. [col. 1, ll. 31-42]. Useful rubbers include EPDM, etc. [col. 1, ll. 46-47]. A density reduction of from 10% to 70%, based on the density of the starting composition, is achieved [col. 2, ll. 45-49]. Water absorption was tested by immersing (submersing) the foam in water for 24 hours and measuring the weight gain. Low values of water-absorption indicate that a high proportion of the cells are closed cells. A high proportion of closed cells is advantageous for applications such as automotive door seals [col. 3, ll. 46-52]. Table I shows that the water

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absorption is from 1.4 to 17.8%. Preferably the rubber is at least partially cured, and more preferably that it be fully cured (vulcanized) [col. 2, ll. 5-6].

For claims 1, 6, 7, 9, 10, 17-19 and 21-23, Dumbald teaches all the features of the claimed invention. Nowhere does Dumbauld disclose that an auxiliary layer is required for applications such as automotive door seals.

For claims 8 and 11-13, since Dumbauld teaches a density reduction of from 10% to 70%, based on the density of the starting composition, and the density of the polymer blends is reasonably estimated slightly below 1 g/cm³ and anticipates the claimed foam densities.

For claims 110 and 111, nowhere does Dumbauld disclose that a melt strength enhancing additive is required for making the foam.

5. Claims 14-16, 24, 76-91, 112 and 113 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dumbauld [US 5070111].

The teachings of Dumbauld are again relied upon as set forth above.

For claims 14-16, Dumbauld is silent about the average cell size. However, since Dumbauld teaches the same subject matter for the same use as the claimed invention, a workable cell size is deemed to be either anticipated by Dumbauld, or obviously provided by practicing the invention of prior art, dictated by the required properties for the same end use.

For claims 24, 76-88, 91, 112 and 113, Dumbauld is silent about the water absorption value of the foam by U-test. However, since Dumbauld teaches the same subject matter for the same use as the claimed invention, and teaches that the foam has a low water absorption value by submersion test, a workable water absorption value is deemed to be either anticipated by Dumbauld, or obviously provided by practicing the invention of prior art, dictated by the

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required properties for the same end use. It should be noted that the wide disparity in water absorption value between the submersion test and U-test values for the same foam material are consistent with the results shown in Table I of the present application.

For claims 89 and 90, similarly, since Dumbauld teaches the same subject matter for the same use as the claimed invention, a workable hardness is also deemed to be either anticipated by Dumbauld, or obviously provided by practicing the invention of prior art, dictated by the required properties for the same end use.

Response to Arguments

6. Applicants argue at Remarks page 7 that

“It appears that the water absorption testing described in Dumbauld was conducted without any vacuum being applied and, thus, does not relate to complete submersion water absorption values. In the context of the present application, "complete submersion water absorption," is measured by completely immersing an entire sample in water under high vacuum, for example according to ASTM D 1056 Sections 42 through 48 (See page 6, last paragraph). The vacuum is placed on the sample (not in the environment above the water as suggested in the Office Action) and, thus, enhances water absorption into the sample. In the absence of a vacuum, less water would be drawn into the sample and, thus, the water absorption values in Dumbauld would be significantly lower than values measured on the same sample using a "complete submersion" test as described in the present application.”

However, absence of any evidentiary support regarding how vacuum would have affected the test results, applicants appear to be analyzing Dumbauld in vacuum. Further, applicants are reminded that claim 1 is devoid of the ASTM testing method, nor specifying that a vacuum is applied over the immersed foam. Finally, even if Dumbauld's immersion test is carried out without vacuum, it is unseen that how a lower water absorption can be expected under a higher water pressure to the foam surface, because one of ordinary skill in the art would have

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reasonably expected the opposite effect that in the absence of a vacuum a relative higher pressure of water would have been applied onto the foam surface and consequently result in a higher driving force to pressure water into the foam, i.e., a greater water absorption.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICTOR S. CHANG whose telephone number is (571)272-1474. The examiner can normally be reached on 7:00 am - 5:00 pm, Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1794